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BRIEFING PAPER OF THE
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Hon. Deborah Rose, Chair

June 12, 2014

OVERSIGHT: **The Rahway Arch Project's Potential Impact on Staten Island: Will Staten Island's Shoreline Be Safe?**

I. Introduction

On Thursday June 12, 2014, the Committees on Environmental Protection and Waterfront will hold an oversight hearing titled "The Rahway Arch Project's Potential Impact on Staten Island: Will Staten Island's Shoreline Be Safe?" Those invited to testify include elected representatives, concerned citizens, and relevant interest and community groups.

At this hearing, the Committees seek to learn more about the Rahway Arch Project, including the current plan to import more than two million tons of contaminated soil to "cap" impoundments at the site in Carteret, New Jersey, and how this would affect the waters of the Arthur Kill and the residents and ecosystems of the West Shore of Staten Island.

II. Background and Environmental Attributes of Staten Island's Arthur Kill

The West Shore of Staten Island is surrounded by the Arthur Kill, a 600-foot wide salt water tidal strait connecting the Kill van Kull and Newark Bay to the north with Raritan Bay and the Raritan River to the south. Tidal surges come from both ends, with an average flushing time of two weeks.[1] The major fresh water inputs are the major tributaries of the Arthur Kill: the Rahway River, the Elizabeth River, and the Fresh Kills, which contribute about 38% of the fresh water, with the balance of 62% of fresh water coming from smaller tributaries. The Arthur Kill suffers from many use impairments, including heavy industry and major shipping vessel traffic. The resultant poor water quality and contaminant loads are compounded by the slow flushing rates, causing levels of organic and metal contaminants to be particularly high.[2] According to the New York State Department of Environmental Conservation (NYDEC), the Arthur Kill and

[1] Significant Habitats and Habitat Complexes of the New York Bight Watershed, Arthur Kill Complex, Complex 18, *available at* http://nctc.fws.gov/resources/knowledge-resources/piubs5/web_link/text/akc_form.htm.
[2] *Id.*

the Kill Van Kull both are classified "SD" the lowest water quality designation with a goal of fish survival.[3]

Vast modifications of the physical features of the Arthur Kill were made to serve the harbor area including dredging and bulk heading. The highly industrialized waterway is dredged to an average channel depth of 9 meters (30 feet) and much of the shoreline is bulk headed or riprapped.[4] Despite its industrial transformation, if you consider the shoreline associated with the islands, there is fifty five percent of the total shoreline still available as natural mudflats and marshes. These natural areas are utilized by a number of species living in the intertidal zone including abundant fiddler crab (*Uca* spp.), ribbed mussels (*Geukensia demissus*), and marsh snails (*Melampus bidentatus*). These animals live in mudflats and marshes and are essential components of the food chain. The area below the marsh is home to a variety of benthic animals including worms, shellfish, snails, sponges, and jellyfish[5].

The Arthur Kill complex is also notable for the network of remaining upland and wetland open space within a highly industrialized area. These natural communities support regionally significant fish and wildlife populations, especially wading birds. The Arthur Kill complex supports seasonal or year-round populations of 178 species of special emphasis, incorporating 37 species of fish, 128 species of birds, federally endangered species and species of concern as well as New York State endangered species, New York state listed special concern animals, and New York state listed rare plants. Living resources and their habitats are dynamic; therefore, the ecological significance and species information presented here may not be complete or up-to-

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[3] Environmental Conservation Law §17-0301, part 890, www.dec.ny.gov/regs/4541.html; New York Harbor Complex UAA, Water: Use Attainability Analysis, *available at* http://water.epa.gov/scitech/swguidance/standards/uses/uaa/ny_harm.crfm.

[4] Significant Habitats and Habitat Complexes of the New York Bight Watershed, Arthur Kill Complex, Complex 18, *available at* http://nctc.fws.gov/resources/knowledge-resources/piubs5/web_link/text/akc_form.htm.

[5] *Id.*

date.[6] To preserve these resources care must be taken not to add additional sources of contamination to the Arthur Kill.

III. The Rahway Arch Site

The Rahway Arch site is a 125-acre property located in Carteret, New Jersey that is a chemical byproduct waste disposal site.[7] The property was formerly the American Cyanamid Landfill site, an industrial waste disposal facility operated by American Cyanamid Company (now Cytec Incorporated) from the mid-1930s through 1974 to dispose of a mixture of acidic sludge from an aluminum sulfate (commonly referred to as alum) manufacturing process and alkaline sludge from a yellow prussiate of soda (YPS)[8] manufacturing process, along with other wastes generated by American Cyanamid at another site located in Linden, New Jersey.[9]

The site contains six 15-acre impoundments that were constructed above existing grade with wooden and earthen dikes. They currently contain approximately 2 million tons of alum-YPS sludge, which contains cyanide. The size and capacity of each of the impoundments varies, as does the thickness of the sludge, which ranges from 5 to 20 feet. Undocumented fill material was imported and used on the site over the years to maintain the dikes and to stabilize the surface in several of the impoundments. The impoundments are directly adjacent to the Rahway River and are routinely subject to flooding during high tides. The sludge in the impoundments, the fill material used on the site and groundwater on the site has been found to contain cyanide and other heavy metals.[10]

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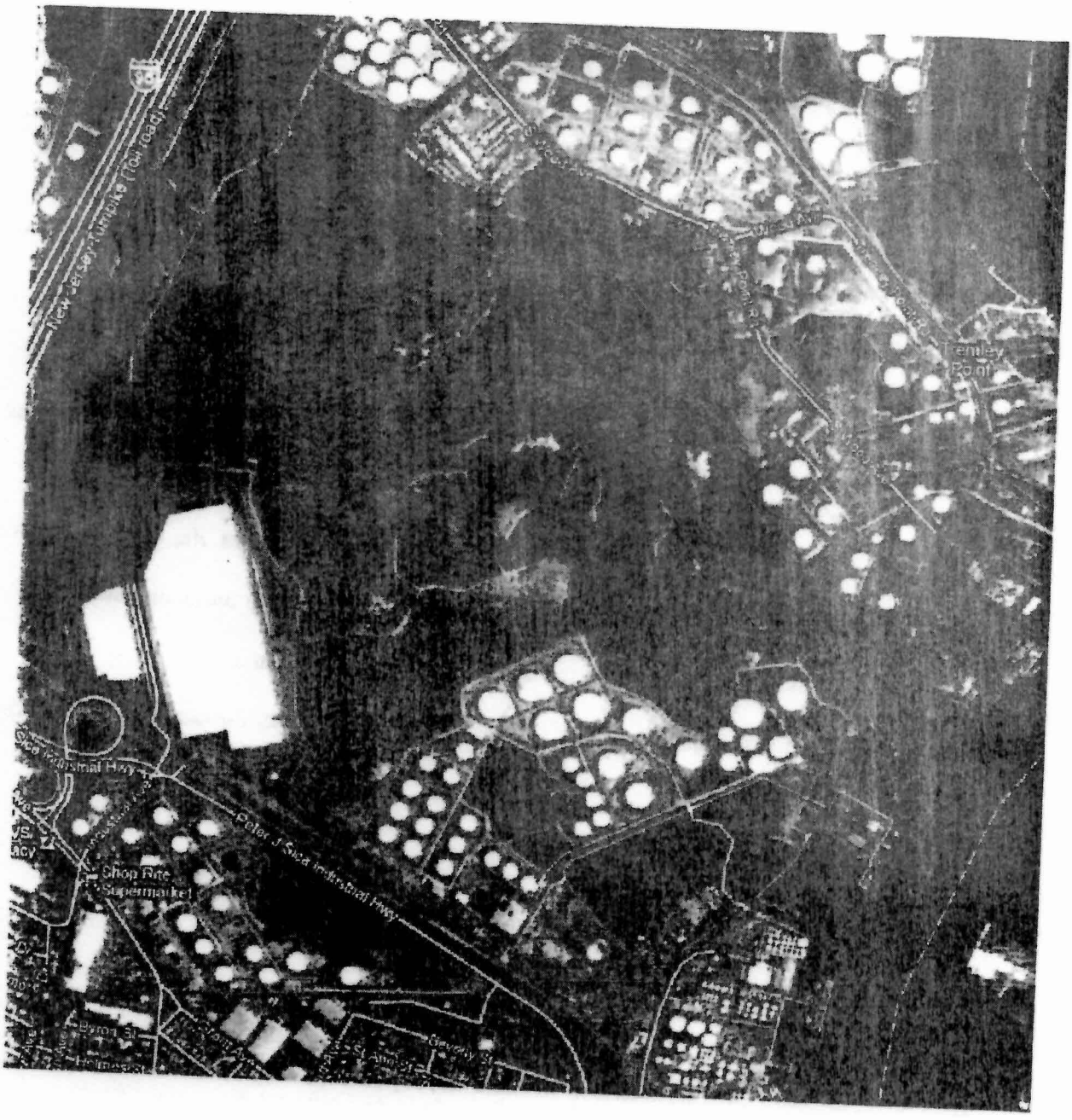
[6] *Id.*
[7] January 17, 2013 letter from EastStar Environmental Group, Inc. to Chet Pucillo, Manager of Rahway Arch Properties, LLC.
[8] YPS is often used as an anti-caking agent for road and food-grade salt.
[9] January 17, 2013 letter from EastStar Environmental Group, Inc. to Chet Pucillo, Manager of Rahway Arch Properties, LLC.
[10] *Id.*

A current picture of the site is set forth below:

RAHWAY ARCH SITE



In 1978, American Cyanamid added soil and vegetation to the site in order to control alum-YPS sludge dust blowing from the impoundments onto adjoining areas, including the New Jersey Turnpike.[11] From 1987 to 1989, composted sewage sludge from Philadelphia and Camden was spread over all of the impoundments to grow vegetation on the site. The sludge was not tested for potential contamination.[12]

The Rahway Arch contractor's Remedial Action Work Plan states the following: as part of the sludge spreading operation and to construct and access groundwater monitoring wells, Cytec built roads on the site during the 1980s. Demolition debris from the Linden site and other undocumented fill was brought to the site to construct the roads. From the 1980s until 2010, Cytec brought additional undocumented fill onto the site. Wastes have been moved around the site to increase capacity while the impoundments were being used and to widen and stabilize the roadways and maintain the site following its closure. This led to further spreading of contaminants and the undocumented fill throughout the site. Over the years, the vegetative cover has deteriorated in spots, leaving areas of exposed alum-YPS sludge. The undocumented fill remains throughout the site, blended into the alum-YPS sludge, accumulated in the impoundments and in the roads and berms.[13] The site was issued a "No further action" letter in 2003 by New Jersey DEP.[14]

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[11] *Id.*
[12] *Id.*
[13] *Id.*
[14] NFA - No Further Action: A final remediation document issued by the Department that is a determination based upon an evaluation of the historical uses and/or investigation of a site or subsite that there are no contaminants present, or that any discharged contaminants that were present have been remediated to applicable standards or remediation regulations. *See* http://www.state.nj.us/dep/srp/community/basics/glossary.htm#n (accessed June 6, 2014)

IV. Current Project: Capping the Impoundments

In 2010, Rahway Arch Properties, LLC ("Rahway") purchased the property. Under New Jersey state law, as the current owner, Rahway is responsible for conducting a full site investigation and correcting any deficiencies and ensuring that the remedy is protective of human health and the environment.[15] After purchasing the property, Rahway hired East Star Environmental Group as their Licensed Site Remediation Professional (LSRP)[16] to conduct an investigation of the site to determine whether further steps needed to be taken on the site to protect public health and the environment. Based on a site inspection and data obtained from soil and sediment analyses, EastStar concluded that the conditions at the site were such that it was no longer protective of human health and the environment and notified the New Jersey Department of Environmental Protection (NJDEP), which reviewed the investigation report, conducted a site inspection, and concurred with the conclusions.[17]

Based on the information obtained during the initial investigation, Rahway proposed to cap the six impoundments by importing and processing approximately two million tons of petroleum-contaminated soil that would be processed at a temporary recycling facility located on the site. The cap is designed to be 29 feet tall and above flood level. The process is being managed by Soil Safe, Inc. and requires a Class B recycling permit. The project has been estimated to take five years.[18]

The stability of the sludge to support the contaminated soil or any structures on top of it is questionable, as are the berms that form the impoundments. According to EastStar's own

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[15] New Jersey Site Remediation Reform Act, C.58:10C-16.
[16] LSRP – Licensed Site Remediation Professional: Individuals that are licensed by the Department and are qualified to conduct the remediation of contaminated sites in New Jersey without prior NJDEP approval. *See* http://www.state.nj.us/dep/srp/community/basics/glossary.htm#n (accessed June 6, 2014). For further information on the LSRP Program, *see* http://www.nj.gov/dep/srp/.
[17] New Jersey Site Remediation Program, "Former Cytec Industries Site" (July 2012).
[18] *Id.*

contractor, "[t]he sludge … is not capable of supporting any significant weight and is sensitive and thrixotropic. In addition, the structural stability of the berms that form the impoundments is questionable."[19] In addition, NJDEP technical reviewers have expressed serious concerns about the project, including that the project will either expel its 2 million tons of cyanide sludge contents into harbor waters, or simply collapse under the weight of the planned additional contaminated fill.[20]

A. Army Corps of Engineers' Jurisdictional Determination

The stated objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."'[21] Under Section 401 of the Clean Water Act (CWA), the permit applicant must "obtain a certification from the state in which the proposed discharge is located that the discharge will comply with any applicable water quality standards."

Section 402 "makes it unlawful to discharge any pollutant from a point source to waters of the United States without an NPDES permit." Under Section 404, the applicant must receive a permit from the United States Army Corps of Engineers ("Corps") "for the discharge of dredged or fill material into the navigable waters."[22]

In 2012, Rahway requested that the Army Corps of Engineers determine whether the site contained any wetlands that would be considered "waters of the United States" and otherwise under the jurisdiction of the federal government.[23] In October 2013, the Corps issued a letter that determined that, although there were four jurisdictional wetlands totaling 42 acres on the

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[19] August 22, 2012 letter from EastStar Environmental Group letter to Soil Safe, Inc.
[20] March 21, 2014 letter from NY/NJ Baykeeper to Stephan A. Ryba, , Chief, Eastern Section, U.S. Army Corps of Engineers.
[21] James City County, Va. v. EPA, 12 F.3d 1330, 1332 (4th Cir. 1993), *cert. denied*, 513 U.S. 823 (1994) (citing 33 U.S.C. § 1251(a)).
[22] 33 U.S.C. § 1344(a).
[23] October 24, 2013 letter to Chester Pucillo, Rahway Arch Properties, LLC from Stephan A. Ryba, Chief, Eastern Section, U.S. Army Corps of Engineers.

property, this did not include the area where the six impoundments were located. The letter concluded by stating:

> It is strongly recommended that any development of the site be carried out in such a manner as to avoid the discharge of dredged or filled material into the delineated wetlands and waters of the United States. If the activities proposed for the site involve such discharges, authorization from this office may be necessary prior to the initiation of the proposed work. The extent of discharge of fill material will determine the level of authorization that would be required. [24]

The Rahway River, the Arthur Kill and the Kill Van Kull are all "waters of the United States."[25] Rahway's proposal includes remediation of impoundments, surrounding berms and the installation of a stormwater management system, disturbance of wetlands, in some cases permanently and the issuance of a hardship waiver that would authorize the establishment of a Class B recycling facility at the site.

Elected representative and environmental groups have written to the Corps and requested that it revisit its jurisdictional determination given that discharges of alum-cyanide sludge into the Rahway River and the Arthur Kill are likely, that the berms cannot prevent infiltration of water from the impoundments through the berms, that low lying portions of the impoundments are routinely flooded by the Rahway River, and that at least part of the work must be done in the tidal portion of the project, which is under the Corps' jurisdiction.[26] Staten Island's entire body of legislative representatives, including representatives from the federal, state and local level also formally requested that the Environmental Protection Agency and the New York State

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[24] *Id.*
[25] *Id.* § 1362(7).
[26] March 24, 2014 letter from NY/NJ Baykeeper to Stephan A. Ryba, Chief, Eastern Section, U.S. Army Corps of Engineers; April 8, 2014 letter from U.S. Representative Donald Payne, D-NJ, to Stephan A. Ryba, Chief, Eastern Section, U.S. Army Corps of Engineers.

Department of Environmental Conservation commence an investigation into the issuance of this permit.[27]

B. New Jersey DEP's Permit Approval

According New Jersey's requirements for the placement, storage or processing of hazardous substances, "[t]he Department shall not issue an individual permit for the placement, storage or processing of *hazardous substances* in a floodway"[28] without a hardship exception. In a letter dated February 24, 2014, NJDEP granted Rahway a hardship exception, concluding that there was no feasible alternative.

Rahway's proposed project would result in the processing of 10,000 tons of concrete, brick and block on site and the storage of 30,000 tons of processed material in a flood hazard area.[29] According to New Jersey's requirements for the placement, storage or processing of solid waste, "[t]he Department shall not issue an individual permit for the placement, *storage or processing of solid waste* in a floodway"[30] without a hardship exemption. The February 24, 2014 letter also granted Rahway a hardship exception from this requirement.

New Jersey law makes it clear that solid waste may only be placed outside of a floodway if "[t]he solid waste to be placed, stored or processed is isolated from floodwaters by berms, or will be situated in a specially designed containment area onsite, so that in the event of a flood, the solid waste will not be transported off the site by floodwaters"[31] and NJDEP "determines that the placement, storage or processing of solid waste in the flood hazard area and riparian zone will not pose a threat to the environment or to public health, safety or welfare."[32]

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[27] March 17th 2014 letter from Congressman Grim to Judith Enck and Venetia Lannon also signed by Staten Island State Senators, Assembly Members and City Councilmembers.
[28] New Jersey Administrative Code section 7:13-11.17 (emphasis added).
[29] NJDEP Engineer's Report, Rahway Arch Project May 23, 2013.
[30] New Jersey Administrative Code section 7:13-11.18 (emphasis added).
[31] New Jersey Administrative Code section 7:13-11.18(d)(4).
[32] New Jersey Administrative Code section 7:13-11.18(d)(6).

According to the NJDEP Engineer's Report, numerous alternatives existed, including the no-action alternative.[33] Rahway, in the alternatives analysis, discusses five alternatives including the excavation of all contaminated soils on site and the replacement with clean fill. This alternative was ruled out by NJDEP as infeasible on the grounds that the cost of compliance was unreasonably high in relation to the environmental benefits.[34]

C. The Interstate Environmental Commission

In addition, since 1936, New York, New Jersey and Connecticut have recognized the need for cooperation in order to achieve joint water quality goals by forming what is now known as the Interstate Environmental Commission (IEC).[35] In October 2000, federal legislation was signed that changed the name of the IEC and specified its range of mandates and activities. As part of its involvement in the IEC, New York has enacted legislation that states that it will engage in "faithful co-operation in the control of future pollution and agreed to provide for the abatement of existing pollution in the tidal and coastal waters in the adjacent portions of the signatory states."[36] The IEC's regulations are enforceable and may be brought in the courts of all states. It is at least feasible that an action could be brought if the Rahway Arch Project was found to violate the IEC's water quality standards.

V. The Project's Potential Impact on Staten Island

The Staten Island neighborhood closest to the Rahway Arch/Soil Safe site is Travis-Fresh Kills. The Travis neighborhood was settled in the 1600s and has always been the center of jobs and productive industry. Formerly known as Linoleumville, today the largest employer is Visy Paper, a recycling facility.

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[33] NJDEP Engineer's Report, Rahway Arch Project May 23, 2013.
[34] *Id.*
[35] Information about the Commission is available at http://www.iec-nynjct.org/about.history.htm.
[36] ECL 21-501-21-525.

The Fresh Kills Master Plan calls for the creation of a park three times the size of New York City's Central Park on the former Staten Island landfill located at the site. This would involve preservation of existing neighborhood character, building on the expansive open space opportunities including the 2,200 acre Fresh Kills Park and improving waterfront access opportunities.[37]

New York City's plan for the West Shore of Staten Island, encompassed in a document entitled the "Working West Shore: Creating Jobs, Improving Infrastructure and Managing Growth,"[38] may be endangered by Rahway Arch/Soil Safe's plans to add two million tons of petroleum contaminated soils for "compaction" to the former Cytec site.

[illegible] the cyanide con[illegible]minated sludges left on site by Cytec In[illegible] [illegible]d the petroleum contami[illegible]d soils that would be brought to the site might escape the site via the Rahway River and ente[illegible] the Arthur Kill. Currentl[illegible] [illegible]h tides fl[illegible] [illegible] ste [illegible] [illegible]ns causing a spill[illegible] [illegible] the Rah[illegible] River [illegible] Ra[illegible] [illegible] the Arthur Kill. There is no reason to con[illegible] [illegible]ing the five ye[illegible] that it [illegible]uld take to implement this rem[illegible]y, flooding at high [illegible] [illegible]vel rise, [illegible] [illegible] conditi[illegible] [illegible] [illegible] wo[illegible].

[illegible] heav[illegible] industria[illegible] [illegible] wa[illegible]ront [illegible] not facilitate its cle[illegible]p or [illegible] [illegible]ity g[illegible]al of fish surviv[illegible] [illegible]cover[illegible] [illegible] is a direct pathway of [illegible] [illegible]idents of [illegible] [illegible]nd—fish [illegible] [illegible]mp[illegible]on. [illegible] [illegible] in the Arthur Kill and some [illegible] [illegible] [illegible]ing [illegible] th[illegible] [illegible]ur K[illegible].

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[37] Working West Shore 2030, [illegible] [illegible]proving Infras[illegible] [illegible] [illegible]CEDC, Department of City Planning of New [illegible] [illegible] 2011
[38] *Id.*
[39] New Jersey Site Remediation Program, "Former Cytec Industries Site" (July 2012).

New York City has undertaken an enormous expense on secondary and tertiary sewerage treatment over the past decades, and the entire NY/NJ Harbor Complex has had immense water quality gains over that time. It is remarkably clean.[40] As reports on Harbor Water Quality detail, the Harbor Complex is a series of tidal straights that swish material back and forth and around rather than just flush them into the ocean: the East River, Kill Van Kull and Arthur Kill move material all around, affecting the Hudson, Harlem River, East River, Kill Van Kull, Arthur Kill and even Long Island Sound, and ultimately the Upper and Lower Bay, and Raritan Bays, the Jersey Shore and the South Shore of Long Island.

VI. Conclusion

Where a shared water boundary and tributaries emptying into those waters may impact on water quality goals set by another state, may create new pathways of exposure for residents of an adjoining state and threaten the environment of an adjoining state, all as a result of unilateral solid and hazardous waste disposal decisions, there is hardly a more appropriate basis for the Environmental Protection Agency, which administers the Clean Water Act and the Resource Conservation and Recovery Act, and the Army Corp of Engineers, with clear jurisdiction over wetlands, to intervene.

The Committees look forward to hearing more about the Rahway Arch Project, and how the current plan to import approximately two million tons of contaminated soil to "cap" impoundments would affect the waters of the Arthur Kill and the residents and ecosystems of the West Shore of Staten Island.

[40] NYCDEP's Harbor Water Quality reports from Columbia University, 2003-2004.